

REMARKS

Drawings:

Applicant thanks the Examiner for indicating that the drawings filed with the present application have been approved.

Information Disclosure Statement:

Applicant thanks the Examiner for initialing and returning Form PTO-1449 filed on December 20, 2000, thus indicating that all of the references listed thereon have been considered.

Claim Objection:

The Examiner has objected to claim 1, due to a minor grammatical issue. Applicant has amended claim 1 as shown in the previous section, to conform with the Examiner's suggestion. Applicant hereby requests the Examiner reconsider and withdraw the objection to claim 1.

Further, Applicant notes that the above referenced claim amendment has been made to merely clarify the claimed invention and is not intended to narrow the original scope or spirit of the claim, in any way.

Claim Rejections:

Claims 1-56 are all the claims pending in the application, and currently all of the claims stand rejected.

35 U.S.C. § 103(a) Rejection - Claims 1-56:

Claims 1-56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,837,484 to Eliasson in view of U.S. Patent No. 6,419,749 to Rhoades, and further in view of the general knowledge within the art. In view of the following discussion, Applicant respectfully traverses the above rejection.

Eliasson discloses an apparatus for irradiating an object which includes an interior transparent electrode **14**, creating an interior space **16**, surrounded by dielectric material **9** and a metal tube **8**, where a space **12** is created between the metal tube **8** and the dielectric material **9**. *See Figure 3.* The metal tube **8** and the electrode **14** are coupled through an AC circuit/source **7** such that the electrode **14** emits UV radiation into the center **16** of the electrode. *See id.* However, Applicant respectfully submits that Eliasson has little or no relevance to the present invention, as claimed.

In claim 1 of the present application, there is “an ultraviolet transparent tubular element defining a first space for insertion of an article to be cured, [where the] tubular element [is] surrounded by [an] ultraviolet light emitting device defining a second space between an interior surface of [the] light emitting device and an outermost surface of [the] tubular element.” *See* claim 1. This is not present, taught or suggested in either the Eliasson or Rhoades references. Specifically, it is noted that the UV light emitting device in Eliasson is the electrode **14**. As such there is no transparent tubular element positioned centrally, with respect to the light emitting element **14**. Further, there is no second space located between a tubular element (non-existent in

Eliasson) and an internal surface of the light emitting device **14**. In Eliasson, the only tubular elements are located outside of the light emitting device **14**.

It is noted that even if the light emitting element was interpreted to be both the electrode **14** and the dielectric tube **9** (which is not a light emitting element), the disclosure of Eliasson fails for the same reason. There is no second space or transparent tubular elements as set forth in claim 1.

In the Office Action, the Examiner has identified both the tube **9** and the electrode **14** as the UV light emitting element of the present invention. Applicant submits that with this interpretation, there is no second space or transparent tube, as set forth in claim 1. Additionally, the Examiner identifies the space **12** as correlating to the “second space” of the present invention. However, as set forth in claim 1, the second space is positioned between an interior surface of the light emitting element and an outer surface of the transparent tube. Eliasson fails to teach or suggest this aspect of the present invention. Namely, the space **12**, in Eliasson, is, at best, located between an outer surface of the light emitting element (**14**) and an outer tube **8**. This is not the present invention.

Further, Applicant notes the Examiner’s assertion that in an optional configuration Eliasson discloses using an electrolyte, such as water, in addition to the electrode **14**, and that “inherently” such a configuration would include an additional tube. Applicant completely disagrees with the Examiner regarding the “inherent” teachings of Eliasson.

As an initial matter, Applicant does acknowledge that when a reference fails to expressly disclose each and every element of a claimed invention, as in this case (where all of the references fail to teach this feature of the present invention), it may be argued that a reference “inherently” teaches the missing element or elements of the claimed invention. See In re Oelrich, 666 F.2d 578, 581 (Fed. Cir. 1981). However, evidence of inherency in a reference “must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” Continental Can Co. USA Inc. v. Monsanto Co., 948 F.2d 1264, 1269 (Fed. Cir. 1991) (emphasis added). “Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” Id. (citing In re Oelrich, 666 F.2d 578, 581 (fed. Cir. 1981) (quoting Hansgirg v. Kemmer, 102 F.2d 212, 214 (C.C.P.A. 1939))) (emphasis in original); see also Scaltech Inc. v. Retec/Tetra L.L.C., 51 U.S.P.Q.2d 1055, 1059 (Fed. Cir. 1999); and In re Robertson, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). It is noted that even if the prior art reference could have equally been used or made with only two possibilities, a patent claim which claims one of the two possibilities will not be anticipated because that limitation was not “necessarily” present in the prior art disclosure. See Finnigan Corp. v. I.T.C., 51 U.S.P.Q.2d 1001, 1009-10 (Fed. Cir. 1999) (holding that a prior art reference that disclosed a set-up for performing only resonance or nonresonance ejection was insufficient to show, clearly and convincingly, that nonresonance ejection was inherently taught by the prior art reference). Applicant submits that the use of a tube (meeting the characteristics of the present claimed invention) is not necessarily present in the Figure 3

embodiment of Eliasson as required by US patent law and, as such, the Examiner's assertion of inherency is improper. This is evident in the fact that Eliasson makes no reference of needing such a tube when using an electrolyte such as water within the space **16**. Further, Applicant notes that even if an electrolyte such as water is used, there is no "necessity" for a tube as suggested by the Examiner. For example, one of the factors in determining the configuration would be the type of article being irradiated by the electrode **14**, and Applicant submits that in some applications the use of water without an additional tube is a possibility. For at least this reasoning, Applicant submits that the Examiner's analysis fails.

However, additionally and independently, Applicant notes that, the mere fact that the Figure 3 embodiment in Eliasson contemplates functioning without water (in fact, the absence of an additional electrolyte, such as water, is the primary disclosed embodiment) the additional tube, suggested by the Examiner, is not "necessarily present." As such, Applicant respectfully submits that any assertion of "inherency" is misplaced and improper. Stated differently, the primary embodiment disclosed in Eliasson is not using an additional electrolyte (e.g. water) and does not have an additional interior tube, and because of this the "tube" is not "necessarily present" in Eliasson, and the assertion of "inherency" is improper.

Applicant further notes that the deficiencies of Eliasson, set forth above, are not cured by the teachings of Rhoades, regardless of whether or not one of ordinary skill in the art would find it obvious to combine the teachings of Rhoades with Eliasson, which Applicant does not admit.

With regard to claims 24 and 43, Applicant submits that the cited references fails to disclose, teach or suggest of this claim because of the deficiencies set forth above, with regard to

claim 1. Specifically, the cited references fail to teach or suggest “an ultraviolet transparent tubular element defining a first space for insertion of an article to be cured, [where the] tubular element [is] surrounded by [an] ultraviolet light emitting device with a second space provided between the interior surface of [the] ultraviolet light emitting device and [the] tubular element.”

See claim 24, and also claim 43, having similar limitations.

It is for at least the reasons set forth above, that Applicant submits that even if the references were combined as suggested by the Examiner, the resultant combination would fail to teach or suggest each and every feature of the present invention, as set forth in claims 1, 24 and 43.

As if recognizing the deficiencies in the Examiner’s arguments, the Examiner states that the “Examiner recognizes that obviousness is here established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” Office Action, page 5, (emphasis in original). In response, Applicant submits that the Examiner has provided reference to no such teaching, suggestion or motivation. Specifically, Applicant notes that there is no teaching or suggestion to modify the references to create the “second space” of the present invention, nor is there any teaching or suggestion of placing tubular element of the present invention, inside of the electrode 14.

Applicant notes that the mere fact that a reference can be modified does not make the resultant modification obvious unless the prior art also suggests the desirability of the modifications. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). None of the prior art references disclose or suggest the modifications necessary to render the present invention obvious. Further, the mere fact that the claimed invention is within the capabilities or familiarities of one of ordinary skill in the art is not sufficient, by itself, to establish *prima facie* obviousness. See MPEP § 2143.01.

In view of the foregoing, Applicant submits that one of ordinary skill in the art would not have been motivated to combine the teachings of Eliasson with Rhoades, and even if they did the resultant combination would not teach or suggest each and every feature of the present invention. Therefore, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims, 1, 24 and 43, and hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 103(a) rejection of these claims. Further, as the remaining claims depend on these claims, Applicant submits that these claims are also allowable, at least by reason of their dependence.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/739,670

Our Ref.: A7876
Art Unit: 2881

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Terrance J. Wikberg
Registration No. 47,177

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: October 14, 2003